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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/627,656

07/28/2003

Takao Aichi

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EXAMINER

KASSA, HILINA S

ART UNIT

PAPER NUMBER

2625

MAIL DATE

DELIVERY MODE

09/21/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/627,656

Applicant(s)

AICHI, TAKAO

Examiner

Hilina S. Kassa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Examiner acknowledges the amended claims 1, 2, 5-9 and the newly added claim 13.

Response to Arguments

2. Applicant's arguments filed on 07/06/2007 have been fully considered but they are not persuasive.
3. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

With respect to applicant's argument either Sugiura et al. or Inora et al. did not disclose **"an acquisition unit for acquiring printer information which includes non-ejection nozzle information pertaining to a non-ejection nozzle of a print head from a printer, and a reception unit for receiving print data from the server that generates print data for perform printing without using a non-ejection nozzle based upon the non-ejection information acquired by the acquisition unit."**

In response:

However, Sugiura et al. discloses **an acquisition unit for acquiring printer information** (231, figure 2) **from a printer** (2P, figure 2) connected to said apparatus (paragraph [0022], lines 2-12; note that the control apparatus manages printer information acquired from the print server managing a printer) **and a reception unit for receiving print data from the server as a response** (paragraph [0015], lines 5-6).

Sugiura et al. discloses all of the subject matter as described as above except for specifically teaching **non-ejection nozzle information pertaining to a non-ejection nozzle of a print head and performing printing without using a non-ejection nozzle based upon the non-ejection information acquired by the acquisition unit.**

Couwenhoven et al. teach **non-ejection nozzle information pertaining to a non-ejection nozzle of a print head** (column 3, lines 50-54) and **performing printing without using a non-ejection nozzle based upon the non-ejection information acquired by said acquisition unit** (column 3, lines 54-67).

Sugiura et al. and Couwenhoven et al. are combinable because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skilled in the art to have non-ejection nozzle information pertaining to a non-ejection nozzle of a print head and performing printing without using a non-ejection nozzle based upon the non-ejection information acquired by said acquisition unit. The suggestion/motivation for doing so would have been in order to effectively compensate inoperative ink nozzle without substantial loss of density in the set of ink drop states for each image pixel (column 4, lines 21-24). Therefore, it would have been obvious to combine Sugiura et al. with Couwenhoven et al. to obtain the invention as specified in the stated argument.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura et al. (US Publication Number 2002/0080391 A1) and in view of Couwenhoven et al. (US Patent Number 6,354,689 B1).

(1) regarding claim 1:

As shown in figures 1-2, Sugiura et al. discloses a print control apparatus (242, figure 2) which can be connected to a server (23, figure 2, paragraph [0015], lines 1-3) that generates print data on the basis of printer information and information to be printed (paragraph [0014], lines 2-8), comprising:

an acquisition unit for acquiring printer information (231, figure 2) from a printer (2P, figure 2) connected to said apparatus (paragraph [0022], lines 2-12; note that the control apparatus manages printer information acquired from the print server managing a printer);

a transmission unit for transmitting information required to specify the information to be printed (paragraph [0021], lines 1-12), and the printer information to the server (paragraph [0014], lines 9-10);

a reception unit for receiving print data from the server as a response (paragraph [0015], lines 5-6); and

a print control unit for controlling the printer to print the print data (paragraph [0015], lines 1-3) wherein the server generates print data (paragraph [0021], lines 7-12).

Sugiura et al. discloses all of the subject matter as described as above except for specifically teaching non-ejection nozzle information pertaining to a non-ejection nozzle of a print head and performing printing without using a non-ejection nozzle based upon the non-ejection information acquired by said acquisition unit.

However, Couwenhoven et al. disclose non-ejection nozzle information pertaining to a non-ejection nozzle of a print head (column 3, lines 50-54) and performing printing without using a non-ejection nozzle based upon the non-ejection information acquired by said acquisition unit (column 3, lines 54-67).

Sugiura et al. and Couwenhoven et al. are combinable because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skilled in the art to have non-ejection nozzle information pertaining to a non-ejection nozzle of a print head and performing printing without using a non-ejection nozzle based upon the non-ejection information acquired by said acquisition unit. The suggestion/motivation for doing so would have been in order to effectively compensate inoperative ink nozzle without substantial loss of density in the set of ink drop states for each image pixel (column 4, lines 21-24). Therefore, it would have been obvious to combine Sugiura et al. with Couwenhoven et al. to obtain the invention as specified in claim 1.

(2) regarding claim 2:

Sugiura et al. further discloses, the apparatus according to claim 1, wherein the server generates the print data for performing printing (paragraph [0021], lines 7-12)

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using a nozzle group having a greater number of nozzles among a first nozzle group and a second nozzle group separated by the non-ejection nozzle in the print head based upon the non-ejection nozzle information acquired by said acquisition unit.

Sugiura et al. disclose all of the subject matter as described as above except for specifically teaching using a nozzle group having a greater number of nozzles among a first nozzle group (column 3, lines 58-59) and a second nozzle group separated by the non-ejection nozzle in the print head based upon the non-ejection nozzle information acquired by said acquisition unit (column 3, lines 60-67).

Sugiura et al. and Couwenhoven et al. are combinable because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skilled in the art to have using a nozzle group having a greater number of nozzles among a first nozzle group and a second nozzle group separated by the non-ejection nozzle in the print head based upon the non-ejection nozzle information acquired by said acquisition unit. The suggestion/motivation for doing so would have been in order to elongate the lifetime of the print head so that the printing cost is reduced (column 4, lines 29-31). Therefore, it would have been obvious to combine Sugiura et al. with Couwenhoven et al. to obtain the invention as specified in claim 2.

(3) regarding claim 3:

Sugiura et al. further disclose, the apparatus according to claim 1, further comprising a display which is connected to a computer network (23L, figure 2;

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paragraph [0014], lines 1-4), and displays data provided by a server connected to the computer network (paragraph [0022], lines 1-5), and wherein a location of the information to be printed is transmitted to the server via a window which is displayed on said display and is provided by the server (paragraph [0022], lines 6-12; paragraph [0066], lines 1-6).

(4) regarding claim 4:

Sugiura et al. further disclose, the apparatus according to claim 3, wherein a print mode of the printer is input via the window (WN4 figure 6, paragraph 87, lines 1-3) which is displayed on said display (33b, figure 1; paragraph [0087], lines 4-6), and the print mode is transmitted to the server together with the printer information (paragraph [0081], lines 1-5).

(5) regarding claim 5:

Sugiura et al. disclose all of the subject matter as described as above except for teaching, wherein the server generates the print data so as to transmit null data to a nozzle group having a smaller number of nozzles.

However, Couwenhoven et al. disclose wherein the server generates the print data so as to transmit null data to a nozzle group having a smaller number of nozzles (column 10, lines 10-13).

Sugiura et al. and Couwenhoven et al. are combinable because they are from the same field of endeavor. At the time of the invention it would have been obvious to a

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person of ordinary skilled in the art wherein the server generates the print data so as to transmit null data to a nozzle group having a smaller number of nozzles. The suggestion/motivation for doing so would have been in order to effectively compensate inoperative ink nozzle without substantial loss of density in the set of ink drop states for each image pixel (column 4, lines 21-29). Therefore, it would have been obvious to combine Sugiura et al. with Couwenhoven et al. to obtain the invention as specified in claim 5.

(6) regarding claim 6:

Sugiura et al. disclose a print control apparatus of claim 1 (242, figure 2); and a printer (2P, figure 2).

Sugiura et al. disclose all of the subject matter as described as above except for teaching, a server for generating print data for perform printing without using a non-ejection nozzle on the basis of printer data and information to be printed.

However, Couwenhoven et al. disclose a server for generating print data for perform printing without using a non-ejection nozzle on the basis of data and information to be printed (column 9, lines 18-25).

Sugiura et al. and Couwenhoven et al. are combinable because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skilled in the art a server for generating print data for perform printing without using a non-ejection nozzle on the basis of data and information to be printed. The suggestion/motivation for doing so would have been in order to elongate the

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lifetime of the print head so that the printing cost is reduced (column 4, lines 29-31).

Therefore, it would have been obvious to combine Sugiura et al. with Couwenhoven et al. to obtain the invention as specified in claim 6.

(7) regarding claim 7:

Sugiura et al. further disclose, a print control method using a server (23, figure 2; paragraph [0015], lines 1-3) that generates print data on the basis of printer information and information to be printed (paragraph [0014], lines 2-8), comprising:

an acquisition step of acquiring printer information (paragraph [0014], lines 4-6) from a connected printer (paragraph [0022], lines 1-8);

a transmission step of transmitting information required to specify the information to be printed (paragraph [0021], lines 1-12), and the printer information to the server (paragraph [0014], lines 9-10);

a reception step of receiving print data from the server as a response (paragraph [0015], lines 5-6); and

a printer control step of controlling the printer to print the print data (paragraph [0047], lines 1-7), wherein the server generates print data (paragraph [0021], lines 7-12).

Sugiura et al. discloses all of the subject matter as described as above except for specifically teaching non-ejection nozzle information pertaining to a non-ejection nozzle of a print head and performing printing without using a non-ejection nozzle based upon the non-ejection information acquired by said acquisition unit.

However, Couwenhoven et al. disclose non-ejection nozzle information pertaining to a non-ejection nozzle of a print head (column 3, lines 50-54) and performing printing without using a non-ejection nozzle based upon the non-ejection information acquired by said acquisition unit (column 3, lines 54-67).

Sugiura et al. and Couwenhoven et al. are combinable because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skilled in the art to have non-ejection nozzle information pertaining to a non-ejection nozzle of a print head and performing printing without using a non-ejection nozzle based upon the non-ejection information acquired by said acquisition unit. The suggestion/motivation for doing so would have been in order to effectively compensate inoperative ink nozzle without substantial loss of density in the set of ink drop states for each image pixel (column 4, lines 21-24). Therefore, it would have been obvious to combine Sugiura et al. with Couwenhoven et al. to obtain the invention as specified in claim 7.

(8) regarding claim 8:

Sugiura et al. further disclose, a computer-executable program product embodied in a computer-readable storage medium, comprising:

a code of an acquisition step of acquiring printer information (paragraph [0014], lines 4-6) form a connected printer (paragraph [0022], lines 1-8);

a code of transmission step of transmitting information required to specify the information to be printer (paragraph [0021], lines 1-12), and the printer information to the server (paragraph [0014], lines 9-10);

a code of reception step of receiving print data from the server as a response (paragraph [0015], lines 5-6); and

a code of a print control step of controlling the printer to print the print data (paragraph [0047], lines 1-7), wherein the server generates print data (paragraph [0021], lines 7-12).

Sugiura et al. discloses all of the subject matter as described as above except for specifically teaching non-ejection nozzle information pertaining to a non-ejection nozzle of a print head and performing printing without using a non-ejection nozzle based upon the non-ejection information acquired by said acquisition unit.

However, Couwenhoven et al. disclose non-ejection nozzle information pertaining to a non-ejection nozzle of a print head (column 3, lines 50-54) and performing printing without using a non-ejection nozzle based upon the non-ejection information acquired by said acquisition unit (column 3, lines 54-67).

Sugiura et al. and Couwenhoven et al. are combinable because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skilled in the art to have non-ejection nozzle information pertaining to a non-ejection nozzle of a print head and performing printing without using a non-ejection nozzle based upon the non-ejection information acquired by said acquisition unit. The suggestion/motivation for doing so would have been in order to effectively

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compensate inoperative ink nozzle without substantial loss of density in the set of ink drop states for each image pixel (column 4, lines 21-24). Therefore, it would have been obvious to combine Sugiura et al. with Couwenhoven et al. to obtain the invention as specified in claim 8.

(9) regarding claim 9:

Sugiura et al. further discloses, the computer-executable program product embodied in a computer-readable storage medium according to claim 8, wherein the server generates the print data for performing printing (paragraph [0021], lines 7-12) using a nozzle group having a greater number of nozzles among a first nozzle group and a second nozzle group separated by the non-ejection nozzle in the print head based upon the non-ejection nozzle information acquired by said acquisition unit.

Sugiura et al. disclose all of the subject matter as described as above except for specifically teaching using a nozzle group having a greater number of nozzles among a first nozzle group (column 3, lines 58-59) and a second nozzle group separated by the non-ejection nozzle in the print head based upon the non-ejection nozzle information acquired by said acquisition unit (column 3, lines 60-67).

Sugiura et al. and Couwenhoven et al. are combinable because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skilled in the art to have using a nozzle group having a greater number of nozzles among a first nozzle group and a second nozzle group separated by the non-ejection nozzle in the print head based upon the non-ejection nozzle

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information acquired by said acquisition unit. The suggestion/motivation for doing so would have been in order to elongate the lifetime of the print head so that the printing cost is reduced (column 4, lines 29-31). Therefore, it would have been obvious to combine Sugiura et al. with Couwenhoven et al. to obtain the invention as specified in claim 9.

(10) regarding claim 10:

Sugiura et al. further disclose, the computer-executable program product embodied in a computer-readable storage medium according to claim 8, wherein a location of the information to be printed is transmitted to the server via a window which is displayed on a display for displaying data provided by the server (paragraph [0022], lines 6-12) connected to a computer network and is provided by the server (paragraph [0024], lines 1-5).

(11) regarding claim 11:

Sugiura et al. further disclose, the computer-executable program product embodied in a computer-readable storage medium according to claim 10, a print mode of the printer is input via the window (WN4 figure 6, paragraph [0087], lines 1-2) which is displayed on the display (33b figure, paragraph [0087], lines 4-6), and the printer mode is transmitted to the server together with the printer information (paragraph [0081], lines 1-5).

(12) regarding claim 12:

Sugiura et al. disclose all of the subject matter as described as above except for teaching, wherein the server generates the print data so as to transmit null data to a nozzle group having a smaller number of nozzles.

However, Couwenhoven et al. disclose wherein the server generates the print data so as to transmit null data to a nozzle group having a smaller number of nozzles (column 10, lines 10-13).

Sugiura et al. and Couwenhoven et al. are combinable because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skilled in the art wherein the server generates the print data so as to transmit null data to a nozzle group having a smaller number of nozzles. The suggestion/motivation for doing so would have been in order to effectively compensate inoperative ink nozzle without substantial loss of density in the set of ink drop states for each image pixel (column 4, lines 21-29). Therefore, it would have been obvious to combine Sugiura et al. with Couwenhoven et al. to obtain the invention as specified in claim 12.

(13) regarding claim 13:

Sugiura et al. discloses all of the subject matter as described as above except for specifically teaching a notifying unit for notifying a printer that a unit paper feed amount is to be shortened by lines corresponding in number to a nozzle group having the smaller number of nozzles among the first nozzle group and the second nozzle group

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which are separated by the non-ejection nozzle, based upon the non-ejected nozzle information acquired by said acquisition unit.

However, Couwenhoven et al. teaches a notifying unit for notifying a printer that a unit paper feed amount is to be shortened by lines corresponding in number to a nozzle group having the smaller number of nozzles among the first nozzle group and the second nozzle group which are separated by the non-ejection nozzle (column 5, line 63-column 6, lines 3; note that the group of nozzles compensate for the malperforming nozzle and the second group of nozzles print along the same row of image pixels; also, the receiver medium is advanced in a perpendicular direction by a distance equal to half of the print head height), based upon the non-ejection nozzle information acquired by said acquisition unit (column 3, lines 54-67).

Sugiura et al. and Couwenhoven et al. are combinable because they are from the same field of endeavor. At the time of the invention it would have been obvious to a person of ordinary skill in the art to have a notifying unit for notifying a printer that a unit paper feed amount is to be shortened by lines corresponding in number to a nozzle group having the smaller number of nozzles among the first nozzle group and the second nozzle group which are separated by the non-ejection nozzle, based upon the non-ejected nozzle information by said acquisition unit. The suggestion/motivation for doing so would have been in order to effectively compensate inoperative ink nozzle without substantial loss of density in the set of ink drop states for each image pixel (column 4, lines 21-24). Therefore, it would have been obvious to combine Sugiura et al. with Couwenhoven et al. to obtain the invention as specified in claim 13.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Billet (US Patent Number 6,010,205) discloses selectively activating nozzles to compensate for inoperative nozzles.

Murcia et al. (US Patent Number 6,270,187 B1) discloses a method to reassign printing elements if any printing elements of a print head has failed.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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8. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Hilina Kassa whose telephone number is (571) 270-1676.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Twyler Lamb could be reached at (571) 272- 7406.

Any response to this action should be mailed to:

Commissioner of Patent and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Hilina Kassa

September 11, 2007



TWYLER LAMB
SUPERVISORY PATENT EXAMINER